Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Probability with Phone Numbers**

Directions: You have been given a page from a phone book. Randomly choose 50 telephone numbers. Assign the last two digits of each number to one square of the grid. Assume you cut the papers into squares and put them in a bag. Then answer the following questions:

**Rule for divisibility by 3:**

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1. What is the probability of choosing an odd number? Write your answer as a fraction and a percent. Is this experimental or theoretical probability? How do you know?

P(odd) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the probability of choosing an even number two times in a row without replacing the first number? P(even, even)
2. What is the probability of choosing a number that ends with a 4 and then an odd with replacing the first number? P(4, odd)
3. Are questions 2 and 3 examples of dependent or independent probability? Explain.
4. What is the probability of choosing a number than ends in 0 and a number than ends in 6 without replacing the first number?
5. What is the probability of choosing a number that starts with a 2 and then a number that ends with a 2 with replacing the first number?
6. What is the probability of choosing a number that starts with a 6 or choosing an even number?
7. What is the probability of choosing a number that ends with a 5 or an odd number?
8. What is the probability of choosing a number that ends with a 0 or starts with a 7?
9. What is the probability of choosing a number that starts with a 1 or an odd number?



ANSWER KEY

1. What is the probability of throwing a dart and having it land on red? Write your answer as a fraction and a percent. Is this experimental or theoretical probability? How do you know?

P(red) = \_\_\_\_\_\_\_\_\_answers vary\_\_\_\_\_\_\_\_\_\_

This is theoretical probability because I am determining what should happen based on how I shaded my table. I did not actually throw darts to see how many would land on red.

1. What is the probability of hitting red two times in a row? P(red, red)

Answers vary

1. What is the probability of hitting red and then white? P(red, white)

Answers vary

1. Are questions 2 and 3 examples of dependent or independent probability? Explain.

These are both independent probability because throwing the first dart does not affect what can happen when I throw the second dart. I can still hit all of the squares, even the one that I hit the first time.

1. Create two three-digit numbers that are divisible by 3. Without using a calculator, explain how you know they will be divisible by 3.

Numbers will vary but if the sum of the digits is divisible by 3, then the number is divisible by 3.